U.S. Department of Energy
National Transportation Program
The Focal Point of All DOE Transportation

Motor Carrier Evaluation Program (MCEP) Methodology Plan

–Final–

June 2001

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FIGURES

ACRONYMS

CIR	Carrier Identification Report
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
FMCSA	Federal Motor Carrier Safety Administration
FMCSR	Federal Motor Carrier Safety Regulations
HAZMAT	Hazardous Materials
HRCQ	Highway Route Controlled Quantity
LTL	Less than Truckload
MCEP	Motor Carrier Evaluation Program
MCMIS	Motor Carrier Management Information System
MCSIP	Motor Carrier Safety Improvement Process
NTP	National Transportation Program
NTP–A	National Transportation Program-Albuquerque
OOS	Out-of-Service
RSPA	Research and Special Programs Administration
SAFER	Safety and Fitness Electronic Record
SEA	Safety Evaluation Area
SEC	Securities Exchange Commission
SOP	Standard Operating Procedure
TL	Truckload
VMT	Vehicle Miles Traveled

MOTOR CARRIER EVALUATION PROGRAM METHODOLOGY PLAN

1.0 MCEP EVALUATION PROCESS

The United States Department of Energy (DOE) National Transportation Program-Albuquerque (NTP–A) is responsible for implementing DOE policy and providing the operations management needed to ensure the safe, efficient, regulatory-compliant, and timely transportation of DOE-owned radioactive materials and hazardous waste. The NTP–A Motor Carrier Evaluation Program (MCEP) is a management tool for ensuring that DOE Field Offices and contractors use only qualified carriers to transport DOE-owned radioactive materials and hazardous waste as identified in DOE Order 460.2. DOE established the MCEP to assist DOE Field Offices and contractor transportation organizations in evaluating, enhancing, and standardizing carrier evaluations across the DOE complex.

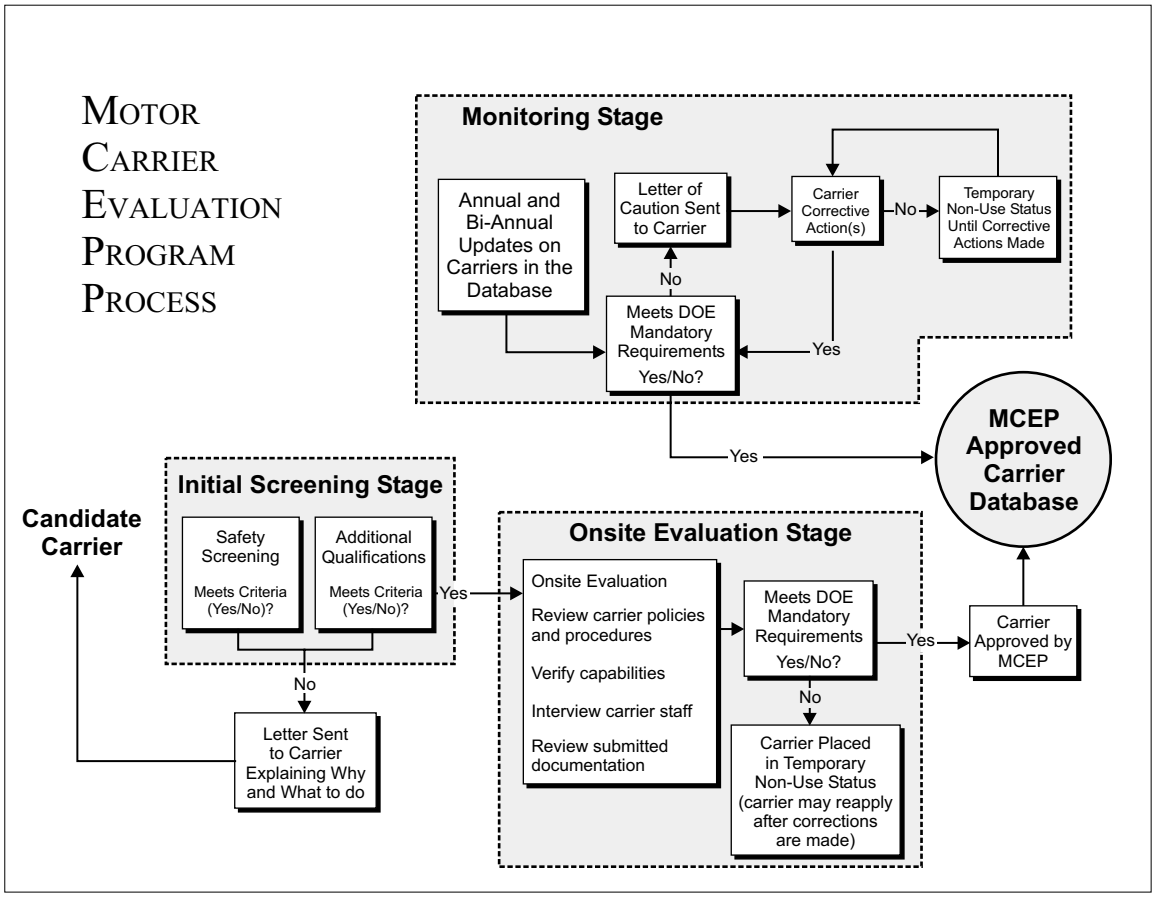
This document describes the methodology used to conduct the continuous carrier monitoring and onsite evaluation processes established under MCEP Revision 6. Illustrations are provided to assist personnel assigned to perform the functions associated with any part of the program. In accord with the changes established under Revision 6, there are three stages and two levels (national and local) to the enhanced MCEP evaluation process (see **Figure 1**). The first and second stages apply to new carriers, as directed by NTP–A or as a result of carrier monitoring activities, and the third involves the monitoring of all carriers approved under the MCEP evaluation process. This process is described below.

Stage 1—Initial Carrier Screening: In this stage, the carrier is measured against a set of minimum DOE requirements and a determination is made concerning whether to qualify the carrier for onsite evaluation (stage 2). Carriers that fail to meet the minimum DOE requirements after two stage 1 attempts are dropped from further consideration for a period of two years after the last failed attempt. This allows the carrier to correct any areas that do not meet DOE's requirements and then re-apply for qualification. The process for initial carrier screening activities is provided in Standard Operating Procedure (SOP) NTP–A–MCEP.001.

Stage 2—Onsite Evaluation: A carrier qualified during the initial carrier screening process is subjected to an in-depth onsite evaluation. Questionnaires have been developed to assist evaluators in focusing their onsite evaluations on regulatory compliance in specific areas of performance. The information gathered during stages 1 and 2 is used to evaluate the carrier's performance, and additional onsite evaluations may be performed as a result of problems identified during the stage 3 carrier monitoring process. The onsite evaluation process is described in SOP NTP–A–MCEP.002.

Stage 3—Carrier Monitoring: A carrier that is qualified through the initial carrier screening and onsite evaluation processes (i.e., found to meet the minimum DOE requirements) is identified on the MCEP website as approved for use by traffic managers throughout the DOE complex. Once approved, carriers are continuously monitored via semiannual assessments to ensure they continue to meet the minimum DOE requirements. Any carrier that demonstrates a negative trend toward failing to meet these requirements is notified and asked to provide an explanation. If the negative trend continues and a Safety Evaluation Area (SEA) value of 75 and higher is attained, the carrier will be removed from the list of approved carriers on the MCEP website until the problems are corrected and the corrections are verified. Carrier monitoring activities are described in SOP NTP–A–MCEP.003.

Figure 1



The MCEP is further divided into two levels, national and local. On the national level, subject matter experts administer the program on behalf of NTP–A and perform initial carrier screening and carrier monitoring activities. Onsite evaluations of nationwide and large regional carriers who serve multiple sites within the DOE complex, as well as carriers with DOE-negotiated tenders, are performed by NTP–A and contractor program management personnel. At the local

level, smaller regional carriers are evaluated and re-evaluated by MCEP-trained DOE Field Element and site contractor transportation professionals. Assignments to the national team are determined by the NTP–A Program Manager and/or the Contractor Program Manager. Assignments to regional and local teams are determined by the appropriate DOE Field Element Traffic Manager. All individuals who perform MCEP onsite evaluation activities must meet the qualification and training requirements identified in Section 3.0 of the MCEP Management Plan.

2.0 STAGE 1—INITIAL CARRIER SCREENING

As stated in DOE Order 460.2, Departmental Materials Transportation and Packaging Management, "All carriers utilized to transport Highway Route Controlled Quantities (HRCQ) of radioactive materials in less-than-truckload (LTL) or truckload (TL) quantities, any TL quantities of radioactive material, and hazardous waste in any quantity, shall be evaluated by DOE Field Elements in accordance with the DOE Motor Carrier Evaluation Program Plan and Program Procedures."

Carriers who do not meet the requirements of DOE Order 460.2 may still participate in the MCEP through the initial carrier screening and carrier monitoring stages only. For example, in most cases an LTL carrier may not transport TL quantities or HRCQ activity levels of radioactive materials. The general requirements of the program, however, can extend to all motor carriers regardless of the types of hazardous materials transported. Therefore, carriers who do not meet the basic requirements for an MCEP onsite evaluation can still participate in the program and provide transportation services to DOE by meeting all of the initial carrier screening and carrier monitoring criteria.

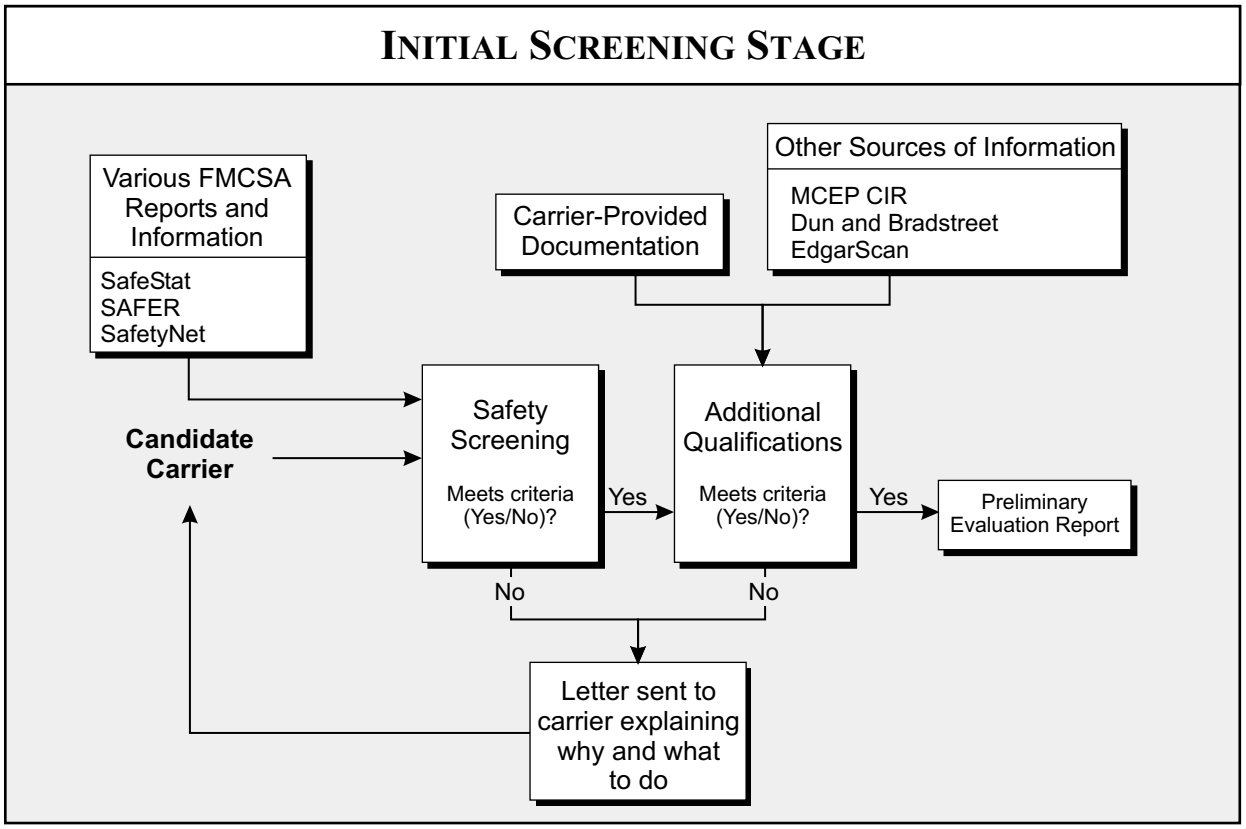
Initial carrier screening evaluations are initiated: (1) upon the request of a site or Field Element and at NTP–A direction, and (2) prior to the use of a carrier following the signing of a contract with DOE or a DOE contractor. Carriers are informed that any refusal to participate in an MCEP evaluation or any failure to comply with MCEP-related requests for documentation will result in an NTP–A recommendation that they not be used to transport DOE-owned hazardous materials. In any instance where external documentation is obtained that reflects on a carrier's ability to be approved or remain approved under the MCEP, copies of that documentation are provided to the carrier for the carrier's information and response.

> *Note: Carriers need not be evaluated prior to bidding. However, upon being awarded a task under a scope of work, they must be successfully evaluated before transporting materials of the types and/or quantities identified in the first paragraph of this section.*

2.1 Initial Carrier Screening Process

Upon receiving direction from the NTP–A or the contractor Program Manager (see **Figure 2**), the Contractor Program Lead initiates the initial carrier screening process, which is performed by the Contractor Program Lead or a designee. After initial screening is completed on local and small regional carriers, the information collected is forwarded to the requesting DOE Field Office Traffic Manager for use in the onsite evaluation.

Figure 2



2.2 Initial Carrier Screening Information Sources

The following sources are used by evaluators to obtain carrier performance information during the initial carrier screening process.

U.S. Department of Transportation/Federal Motor Carrier Safety Administration SafeStat

The most recent U.S. Department of Transportation (DOT) Federal Motor Carrier Safety Administration (FMCSA) SafeStat results for a carrier will be obtained as a preliminary step in the initial carrier screening process (see Appendix A for an overview of the DOT/FMCSA SafeStat Program). If the SafeStat report contains no negative information, the carrier is qualified to proceed to the onsite evaluation process. If the SafeStat results show that the carrier is not meeting the MCEP initial screening criteria, the carrier is given a chance to refute or explain the circumstances that led to the high SEA value or SafeStat score. The only explanation considered acceptable by the MCEP is that the SEA value is incorrect as a result of state or federal misreporting of data. In such cases, the carrier must work directly with DOT to resolve the issues in question.

Initial Carrier Contact

Evaluators typically make initial contact through a carrier's corporate office, most frequently through the person responsible for the carrier's safety or compliance programs. The carrier is required to complete and submit an MCEP Carrier Identification Report (CIR). The carrier also is required to submit additional documentation identified in the List of Requested Documents (see SOP NTP–A–MCEP.001).

NTP/MCEP personnel will evaluate this information to identify areas of interest or concern that should be emphasized during the onsite evaluation. Such areas will generally involve instances where necessary policies and procedures do not fully explain a process or practice and may not meet the minimum DOE requirements (e.g., an incomplete procedure on the carrier's alcohol misuse and controlled substances use testing process for drivers).

A carrier's policies and procedures also will be matched against SafeStat statistics to ensure they are being practiced. For example, a carrier may have a comprehensive maintenance policy, but its vehicle out-of-service (OOS) statistics may be well above the national average. This would indicate a need for an in-depth examination of the carrier's procedures regarding actual maintenance practices and the company's enforcement of related policies to ensure regulatory compliance.

SafetyNet Report

As a follow-on to the steps described above, a SafetyNet Report should be ordered. The SafetyNet Report is a comprehensive summary of a motor carrier's interstate safety performance over a period of two to four years. The report profiles consolidated information from state and federal sources such as vehicle inspection information (including drivers), accident summaries, history of compliance, and federal safety ratings compiled by the Motor Carrier Management Information System (MCMIS) for DOT's FMCSA. The SafetyNet Report also includes a ratio comparing accidents with vehicle miles traveled and in-depth information collected from roadside inspections, including numbers and types of violations and OOS ratios. This report is obtained by completing an MCMIS Carrier Profile Order Form and sending it to the following address:

COmputing TechnologieS, Inc.
OMC Data Dissemination Program
P.O. Box 3248
Merrifield, VA 2216-3248

If needed, the street address and telephone number for **COmputing TechnologieS, Inc.**, is provided below:

3028 Javiar Rd., Suite 101
Fairfax, VA 22301-4622
(703) 280-4001

Evaluators should allow ample time (a minimum of 30 days) to receive the SafetyNet Report prior to mailing the evaluation. A copy of the MCMIS Carrier Profile Order Form can be downloaded from the Internet at http://www.fmcsa.dot.gov/pdfs/profiles.pdf.

Additional Sources of Information

The FMCSA's Safety and Fitness Electronic Record (SAFER) may substituted if a SafetyNet Report is not purchased. It should be noted, however, that the level of detail in a SafetyNet Report is far greater than in a SAFER. If necessary, additional information also may be obtained from external sources such as Dun & Bradstreet and the PriceWaterhouseCooper website. This website provides financial information about publicly traded companies via EdgarScan (Electronic Data Gathering, Analysis, and Retrieval or EDGAR), an interface with the Securities and Exchange Commission (SEC) database. EdgarScan pulls filings from the SEC's servers and parses them automatically to present key financial tables and normalized financials in a common format that is comparable across companies. Users can directly access specific sections of the filing, including financial statements, footnotes, extracted financial data, and computed ratings.

2.3 Initial Carrier Screening Criteria

Information from the sources listed in Section 2.2 is used by Contractor Program Lead personnel in the initial carrier screening process to evaluate carrier safety, qualification, insurance, financial status, and capabilities. These areas are discussed below.

Safety

A carrier's ability to meet DOE's safety criteria is based on its SafeStat results, safety rating, and crash rate over 12 months prior to the MCEP evaluation. A carrier must meet all of the individual safety criteria to pass the safety portion of the initial carrier screening stage. Specifically, the safety portion of the evaluation is based on the following items and associated acceptance criteria:

Item No. 1:	DOT Safety Rating
Source:	SAFER
Acceptance Criteria:	Carriers must have a satisfactory rating.
Explanation:	DOT assigns safety ratings of satisfactory, conditional, or unsatisfactory to carriers based on the latest results of their compliance review. Carriers found to have safety problems as a result of their DOT onsite review are assigned less-than-satisfactory ratings.

Item No. 2:	SafeStat Score
Source:	SafeStat
Acceptance Criteria:	Carriers must not have SafeStat scores.
Explanation:	SafeStat assigns SafeStat scores to identify carriers with safety problems for DOT safety improvement programs such as compliance reviews. SafeStat Scores are assigned only to carriers that are found to be deficient in two different SEAs. A SEA value from 75 to 100

is defined as deficient. This range approximates the worst 25 percent of the carriers assessed within a particular SEA.

Item No. 3: Accident SEA Value
Source: SafeStat
Acceptance Criteria: Carriers must have Accident SEA values less than or equal to 64.
Explanation: The MCEP expands the deficiency range of SEA values (Accident, Driver, Vehicle, Safety, and Management) to establish a higher standard. MCEP-approved carriers must have SEA values less than or equal to 64. Carriers with SEA values of 65 to 74 are issued a "Letter of Caution" from the MCEP. Carriers with SEA values of 75 or more are placed on temporary non-use status until their problems are corrected.

Item No. 4: Driver SEA Value
Source: SafeStat
Acceptance Criteria: Carriers must have Driver SEA values less than or equal to 64.
Explanation: See explanation under Accident SEA Value above.

Item No. 5: Vehicle SEA Value
Source: SafeStat
Acceptance Criteria: Carriers must have Vehicle SEA values less than or equal to 64.
Explanation: See explanation under Accident Sea Value above.

Item No. 6: Safety Management SEA Value
Source: SafeStat
Acceptance Criteria: Carriers must have Safety Management SEA values less than or equal to 64.
Explanation: See explanation under Accident SEA Value above.

Item No. 7: Recordable Crash Rate
Source: SafeStat/MCEP CIR
Acceptance Criteria: Carriers must have crash rates less than or equal to 64.
Explanation: As part of the MCEP evaluation process, the carrier provides the number of recordable crashes its commercial vehicles have been involved in over the 12-month period prior to the evaluation, as well as the vehicle miles traveled (VMT) over that same period. [A recordable crash is defined as a crash involving a fatality, injury, or vehicle towed from the crash scene.] From these numbers, a recordable crash rate of crashes per million VMT is calculated. The recordable crash rate is compared to SafeStat results to obtain the percentile equivalent number for a similar Accident SEA value. This new percentile number can be compared to the standard set in Item No. 3 to determine if the carrier has an acceptably low crash rate.

Item No. 8:	Hazardous Material Inspection Indicator (HMII)
Source:	SafeStat
Acceptance Criteria:	MCEP-approved carriers must have an HMII value less than or equal to 64.
Explanation:	Carriers with HMII and or crash rates of 65 to 74 receive a "Letter of Caution" from the MCEP. If requested, the MCEP will assist a carrier in improving its HMII value and/or crash rate.

Qualification

The candidate carrier must supply basic identification and location information as well as the relevant authorizations in the MCEP CIR. These items are used to build the candidate carrier's initial MCEP record.

Item No. 9:	Carrier Name
Item No. 10:	Physical Address (street, city, state, zip code)
Item No. 11:	Mailing Address
Item No. 12:	Contact Person
Item No. 13:	Fax No. (optional)
Item No. 14:	E-mail Address (optional)
Item No. 15:	Dun & Bradstreet No. (optional)
Item No. 16:	Interstate Commerce Commission Motor Carrier (ICCMC or MC) No. (optional)
Source:	MCEP CIR
Acceptance Criteria:	Items No. 9 through No. 12 must be filled out.
Explanation:	These items are used to contact and communicate with the applicant carrier and to uniquely identify the carrier.
Item No. 17:	USDOT No.
Item No. 18:	Research and Special Programs Administration (RSPA) hazardous materials (HAZMAT) Registration No.
Item No. 19:	Internal Revenue Service Tax Identification No.
Item No. 20:	Environmental Protection Agency (EPA) Transporter Registration No. (if required)
Source:	MCEP CIR

Acceptance Criteria:	Item Nos. 17 through 19 must be valid and current. Item No. 20 must be valid and current for carriers required to register with the EPA.
Explanation:	These items are required for carriers to conduct business involving interstate and intrastate hauling of hazardous wastes.

Insurance

All carriers are required to carry public liability insurance that includes environmental restoration and, in some cases, cargo insurance. The applicant carrier must document this coverage in its MCEP List of Requested Documents for the types of commodities transported.

Item No. 21:	Amount of Liability Insurance Coverage
Item No. 22:	Primary, Secondary, and Tertiary Liability Insurers (as applicable)
Item No. 23:	Primary, Secondary, and Tertiary Policy Numbers (as applicable)
Source:	MCEP CIR
Acceptance Criteria:	The total coverage amount in Item No. 21 must equal or exceed the carrier's required liability insurance.
Explanation:	Liability insurance is required for all motor carriers.

Financial

The candidate carrier must also provide information on any current bankruptcy filings during the initial carrier screening process.

Item No. 24:	Current Bankruptcy Filing
Item No. 25:	Type of Filing
Item No. 26:	State and Date of Filing
Source:	MCEP CIR
Acceptance Criteria:	No current bankruptcy is filed (a Chapter 11 filing may be determined acceptable on a case-by-case basis)
Explanation:	Current business solvency is a DOE requirement for MCEP approval eligibility.

Capabilities

The following items are useful for determining the carrier's carrying capacity and capabilities.

Item No. 27:	Cargo Classification
Item No. 28:	HAZMAT Carried (Y/N)

Item No. 29: Number of Power Units (owned and term-leased)

Item No. 30: No. of Straight Trucks

Item No. 31: No. of Truck Tractors

Item No. 32: No. of Trailers

Item No. 33: No. of HAZMAT Cargo Tank Trailers

Item No. 34: Quantities of Specialized Equipment

Item No. 35: No. of Drivers
Source: MCEP CIR
Acceptance Criteria: All fields must be filled out.
Explanation: These items are used to fill in the carrier's MCEP record and to assist in assessing the carrier's capabilities.

2.4 Initial Carrier Screening Outcome

Carriers must meet the requirements of Items 1 through 8 and provide the information requested in Items 17, 18, 20, 21, and 24 to qualify for further evaluation by the MCEP. After meeting these initial screening criteria, the carrier may proceed to the onsite evaluation process. If any of these initial screening criteria are not met, then the carrier's evaluation process will be put on hold until the outstanding criteria are satisfied.

Carriers that do not qualify during the initial screening stage will be notified of the specific reasons for failure and advised as to how the outstanding criteria may be satisfied. This procedure encourages candidate carriers that do not fully meet the MCEP initial screening criteria to make the necessary changes and/or improvements required to eventually proceed to the onsite evaluation stage.

A carrier that fails two initial screening evaluations in three years will not be re-evaluated for a period of two years after the date of the last screening attempt.

A carrier disputing DOT data must resolve such problems with DOT and afterwards advise DOE of the results.

3.0 STAGE 2—ONSITE EVALUATION

The onsite evaluation process consists of three parts: (1) the pre-onsite evaluation review, (2) the onsite evaluation, and (3) the evaluation of observations made during the onsite evaluation (see **Figure 3**).

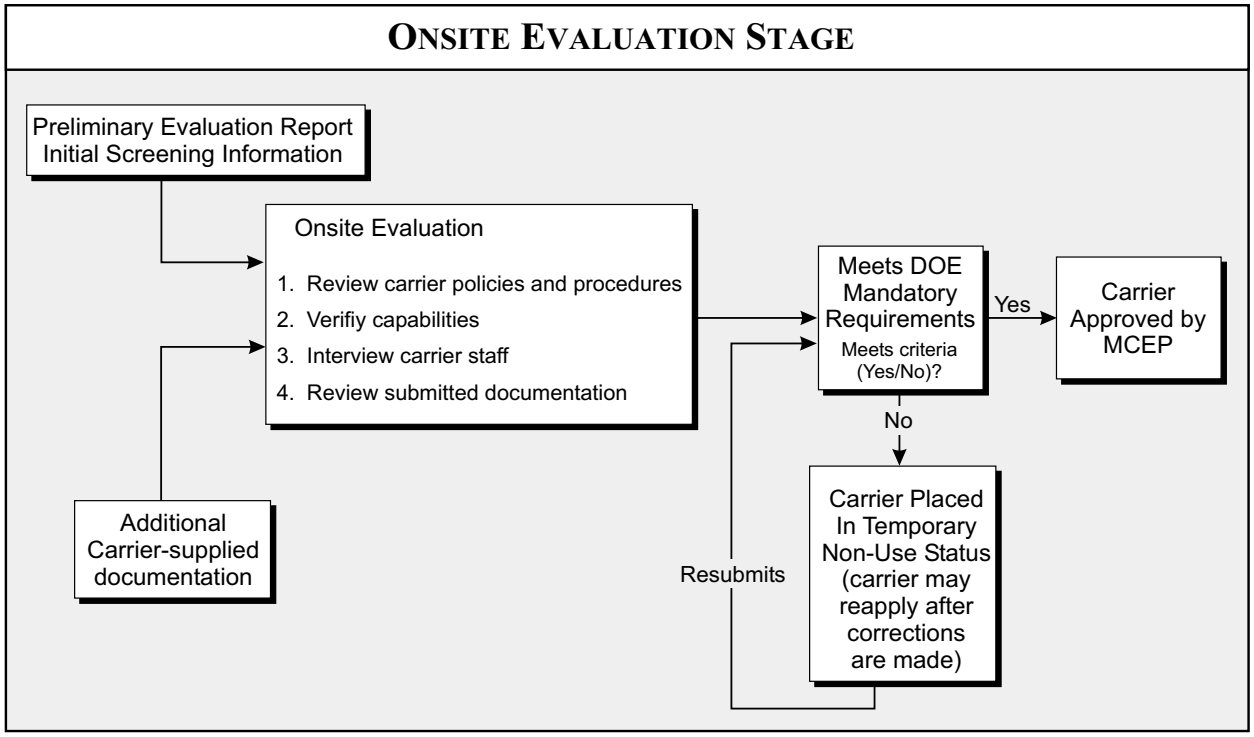
The primary objective of the onsite evaluation process is to confirm the carrier-submitted information obtained during the initial carrier screening stage (e.g., recordable crash data and

carrier capabilities). The onsite evaluation also validates whether the carrier has safety policies and practices in places that comply with all applicable regulations, and focuses on items such as driver hiring, training, and oversight; vehicle maintenance; HAZMAT-related issues; and the financial solvency of the carrier.

3.1 Pre-Onsite Review

To facilitate the pre-onsite evaluation review process, the Contractor Program Lead provides all of the information gathered about the carrier to the personnel designated to perform the onsite evaluation. This information includes the documentation provided by the carrier and a Preliminary Evaluation Report containing information obtained from external sources (SafeStat statistics, the MCEP CIR, etc.), as well as a brief summary of those questions or areas of concern that should be addressed by the onsite evaluators in addition to the questionnaires.

Figure 3



Onsite Evaluation Items

Practices and programs relevant to the carrier's safety and performance, especially in regard to the transportation of DOE-owned hazardous materials, are assessed as separate items during the onsite evaluation. These items can be categorized as either mandatory or nonmandatory as described below.

Mandatory items: Items that require the carrier to meet specific acceptance criteria related to its ability to comply with applicable federal, state, and local regulatory requirements and DOE Orders when transporting DOE-owned hazardous materials.

Nonmandatory items: Items that do not require the carrier to meet specific acceptance criteria, but do demonstrate the carrier's proactive stance in meeting or exceeding industry standards in a number of regulatory compliance, safety, and operational areas.

For a carrier to be eligible to transport DOE-owned hazardous materials, it must meet the acceptance criteria for *all mandatory items*. If objective evidence is presented to meet the requirement for each criterion, then the item can be checked off on the questionnaires during the onsite evaluation. Some items may not be applicable for certain carriers. These can be checked off as "N/A" (not applicable) and excluded from the required criteria.

The questions and tables listed in SOP NTP–A–MCEP.002 represent areas of validation for the onsite evaluation team. These tables are organized largely according to relevant portions of the *U.S. Code of Federal Regulations*. Guidance concerning the number (sample size) of records (e.g., driver qualification files, maintenance files, Drivers' Record of Duty Status, driver vehicle inspection reports, etc.) to be verified is also found in SOP NTP–A–MCEP.002.

3.2 The Onsite Evaluation

The following objectives apply to the onsite evaluation:

- Focus on potential problems identified through the initial carrier screening process or the pre-onsite evaluation review.
- Validate hiring, training, and other carrier safety programs to verify implementation and effectiveness.
- Verify capabilities in terms of DOE requirements.

These objectives are quantified during the onsite evaluation via questionnaires based on hazardous materials capabilities and Federal Motor Carrier Safety Regulations (FMCSR) regulations or on current industry standards.

Arranging the Onsite Evaluation

A mutually acceptable onsite evaluation date should be set, and the carrier should be allowed ample time to prepare those items identified during the pre-onsite review process for in-depth evaluation. Once an onsite evaluation date is established, a letter of confirmation must be sent to the carrier. An example of the confirmation letter can be found in the format and narrative instructions of this document. This format should be followed to ensure program consistency.

Along with the confirmation letter, copies of data pertinent to the onsite evaluation should be furnished to the carrier, including a copy of the SafeStat Report and any questions or concerns that the evaluators intend to address during the onsite evaluation.

A confirmation call should be made prior to the onsite evaluation date to establish arrival times, obtain accurate directions, and identify persons who will meet the team. Based on information supplied by the carrier and the concerns identified by the evaluation team, the duration of the evaluation process may take longer than one day. Upon arrival, a standardized entrance briefing (including overheads) should be conducted to introduce the onsite evaluation team members and their qualifications and to explain the MCEP and its primary goals.
The carrier must understand that DOE and/or its contractor organizations have no enforcement authority, and that the evaluation is being performed with the permission or at the invitation of the carrier. Any lack of cooperation, however, will result in the carrier being placed in a non-use status by DOE.

Obtaining Additional Information

The onsite evaluation process must include a sampling of Driver Qualification Files, Vehicle Maintenance Files, and Driver's Record of Duty Status using the appropriate tables identified in the evaluation sample size of SOP NTP–A–MCEP.002.

The MCEP does not require duplicate reviews of compliance items in any area where (1) a carrier has a SEA value of less than 25, and (2) a DOT Compliance Review has been performed within nine months prior to the MCEP evaluation.

Evaluators are encouraged to ask questions to gain a broader perspective of the carrier, and notes should be taken whenever possible. The evaluation team must be satisfied with the quantity and quality of the information received from the carrier prior to departure.

To maintain the integrity of the program, all materials provided by the carrier must be treated as proprietary and must not be shared with other carriers or persons outside DOE.

3.3 Determining Carrier Eligibility

Information obtained during the onsite evaluation, along with SafeStat results, will be used to determine a carrier's eligibility for MCEP approval. Based on this information, carriers will be designated as "approved" or "unapproved." Carriers that do not meet the MCEP eligibility requirements will be advised about where improvements are required, and that reapplication is permitted during the next evaluation cycle (six months later). Carriers will be allowed a maximum of two unsuccessful attempts to pass in a three-year period, after which they will be dropped from consideration for a period of two years from the date of the last attempt.[1]

Carrier Capabilities

[1] For further information on this topic, see the "MCEP Eligibility and Ranking" attachment in SOP NTP–A–MCEP.002.

Carrier capabilities can be found on the FAXBACK website at www.emwebwin.com. A User ID and password will be required for DOE and DOE contractor personnel to access this information. After clicking on the carrier's name, its capabilities will be identified in the form of the MCEP Report and MCEP CIR. This information should be used by DOE and contractor traffic managers to select the most qualified carriers.

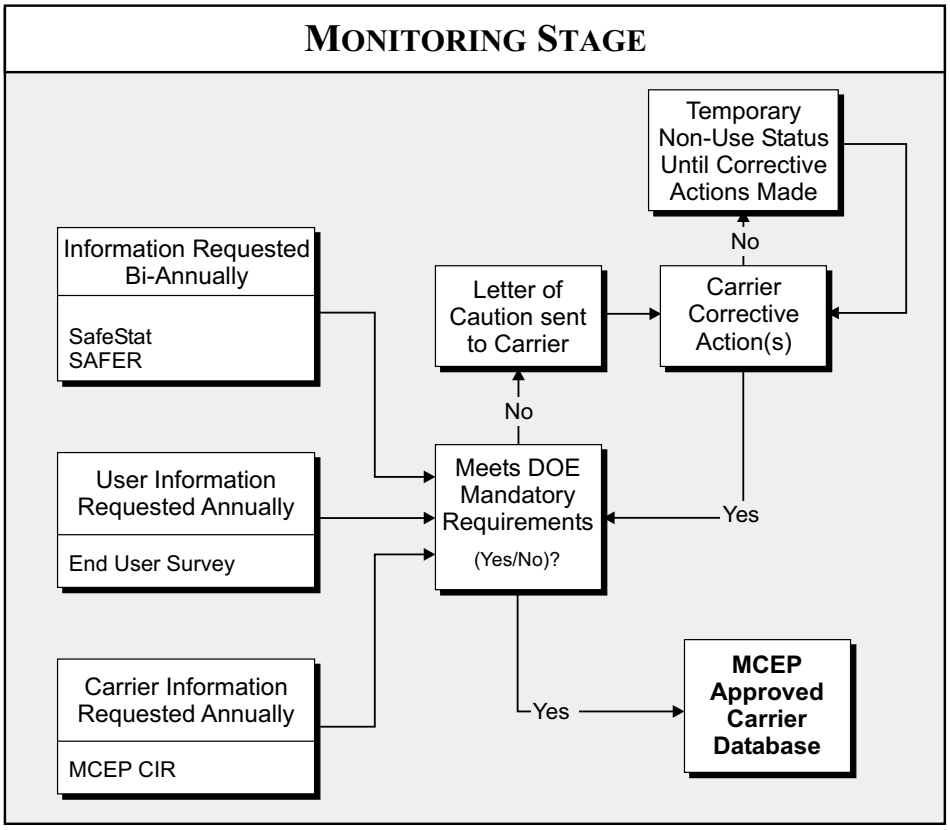
4.0 Stage 3—Carrier Monitoring

As shown in **Figure 4**, the same types of information used during the initial carrier screening stage are collected during the carrier monitoring stage. Carrier performance information is acquired from the most recent DOT SafeStat results, the carrier's safety rating, a SafetyNet Report, a revised MCEP CIR completed by the carrier, and the End User Surveys submitted by the sites that utilize the carrier's services (see Section 4.1 below). In addition, the carrier is required to provide updated information concerning any changes in their capabilities and other operational areas, financial status, and insurance coverage. This information is compared against the same criteria used in the initial carrier screening and onsite evaluation stages to assess whether the carrier remains eligible for DOE service. Eligible carriers that have previously transported DOE-owned radioactive materials and hazardous waste are also evaluated on customer service (via End User Surveys).

The timing of carrier monitoring updates (October and April) immediately follows the semiannual DOT SafeStat updates (September and March). CIRs and End User Surveys are updated annually in March. The carrier monitoring process also can be initiated upon request, with NTP–A approval.

Certain instances such as the awarding of a contract, the sale of a business, a foreign company purchasing a carrier that transports classified materials, a change in capabilities, or service problems may require onsite re-evaluation and verification by DOE personnel. Re-evaluations may be directed by the NTP–A or the local DOE Traffic Manager.

Figure 4



Continuous monitoring ensures that carriers are evaluated consistently for compliance with DOE's minimum performance-based requirements, whether they are new to the MCEP or already participate in the program. Continuous monitoring also produces several additional benefits:

- Updated carrier safety performance data
- Updated records of carrier capabilities and points of service
- Updated carrier quality of service assessments
- Actions to address concerns about carrier performance

4.1 Carrier Performance Information

This section provides more detailed descriptions of the some of the key sources of carrier performance information used during the carrier monitoring process.

SafeStat/SAFER

Each monitored carrier's safety performance assessment is updated using the most current information from an FMCSA SafeStat run (includes current information about a carrier's on-road safety performance, as well as DOT audit and enforcement information, if available). In addition, the carrier's safety rating is checked via FMCSA's SAFER to ensure that the carrier

maintains a satisfactory rating. Monitored carriers supply updates on accidents and VMT within the previous year so that the carrier accident rate can be updated.

[Note: The same group of safety performance assessment items used in the initial carrier screening and onsite evaluation stages are used to ensure consistency throughout the MCEP process.]

Carrier Identification Report

Carriers are required to submit an MCEP CIR to update their status and to identify any changes in their capabilities. This information is measured against previous reports to identify any improvements or deficiencies.

End User Survey

Each DOE site is requested to submit updated End User Surveys for all carriers utilized during the reporting period. The surveys submitted by the sites for each carrier are totaled and averaged to obtain a performance rating (3.5 and above is considered satisfactory, 3.4 and below is considered unsatisfactory). Although the End User Surveys are scored independently, they are also compared to previous surveys to identify significant changes that might affect a carrier's status. An example of the End User Survey is provided in SOP NTP–A–MCEP.003.

4.2 Carrier Monitoring Process Outcomes

Five Possible Outcomes

Five possible outcomes may result from a carrier monitoring run:

1. Monitored items meet the criteria for acceptability and the carrier maintains its "approved" status. If the carrier continues to meet all the criteria for approval, this information will be updated as appropriate on the carrier's MCEP record. The threshold for continued acceptability is (1) no SafeStat score, (2) timely submission of annual information updates, and (3) a minimum 3.5 score on the annual End User Surveys.

2. A "Letter of Caution" is issued when negative trends in a carrier's SEA values are noticed. This proactive approach provides a "heads-up" to the carrier that it may eventually become ineligible for MCEP approval if improvements are not made, which gives the carrier's management time to address the identified problems, improve overall performance, and maintain eligibility (see SOP NTP–A MCEP.003).

3. Carriers that have received a "Letter of Caution," but have not met the minimum DOE requirements over the previous six-month reporting period are placed on non-use status and removed from the list of approved carriers on the MCEP website until the required improvements have been made and their improved performance has been verified by DOE.

4. Monitoring results are determined to require further review. Such reviews may be as simple as a phone call, may require action on the part of the carrier, or may result in an onsite evaluation to answer questions or obtain information concerning corrective actions. Items that require monitoring reviews may include, but not be limited to, the following:

   - A questionable or disturbing trend in the SafeStat reporting data
   - Failure to submit or complete data requested
   - A poor End User Survey score from one or more sites
   - Questions of financial stability (e.g., operating ratios, bankruptcy, etc.)

   Monitoring reviews may result in one of the following actions:

   - Immediate resolution of a problem through cooperation between DOE and the carrier (via remote or onsite action)
   - Temporary suspension of MCEP approval until the problem is resolved to DOE's satisfaction
   - Termination of the carrier's eligibility for MCEP approval [The carrier must reapply to be reinstated.]

5. Carriers who receive a conditional or unsatisfactory safety rating from the FMCSA are placed in non-use status by the MCEP.

5.0 REFERENCES

Code of Federal Regulations, Title 49, Part 40, "Procedures for Transportation Workplace Drug Testing Programs," as amended.

Code of Federal Regulations, Title 49, Part 107, "Hazardous Materials Program Procedures," as amended.

Code of Federal Regulations, Title 49, Part 171, "General Information, Regulations, and Definitions," as amended.

Code of Federal Regulations, Title 49, Part 172, "Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements," as amended.

Code of Federal Regulations, Title 49, Part 177, "Carriage by Highway," as amended.

Code of Federal Regulations, Title 49, Part 382, "Controlled Substances and Alcohol Use and Testing," as amended.

Code of Federal Regulations, Title 49, Part 383, "Commercial Driver's License Standards; Requirements and Penalties," as amended.

Code of Federal Regulations, Title 49, Part 385, "Safety Fitness Procedures," as amended.

Code of Federal Regulations, Title 49, Part 387, "Minimum Levels of Financial Responsibility for Motor Carriers," as amended.

Code of Federal Regulations, Title 49, Part 390, "Federal Motor Carrier Safety Regulations; General," as amended.

Code of Federal Regulations, Title 49, Part 391, "Qualifications of Drivers," as amended.

Code of Federal Regulations, Title 49, Part 392, "Driving of Commercial Motor Vehicles," as amended.

Code of Federal Regulations, Title 49, Part 393, "Parts and Accessories Necessary for Safe Operation," as amended.

Code of Federal Regulations, Title 49, Part 395, "Hours of Service of Drivers," as amended.

Code of Federal Regulations, Title 49, Part 396, "Inspection, Repair, and Maintenance," as amended.

Code of Federal Regulations, Title 49, Part 397, "Transportation of Hazardous Materials; Driving and Parking Rules," as amended.

DOE Order 460.2, Change 1, "Departmental Materials Transportation and Packaging Management," U.S. Department of Energy, Washington, DC, September 27, 1995.

Appendix A

U.S. DEPARTMENT OF TRANSPORTATION MOTOR CARRIER SAFETY STATUS (SAFESTAT) MEASURING SYSTEM OVERVIEW

1.0 INTRODUCTION

In 1993, the U.S. Department of Transportation's Volpe National Transportation Systems Center (The Volpe Center) began a multi-year research effort to define and propose an improved process to assess motor carrier safety fitness for the Federal Motor Carrier Safety Administration (FMCSA). The objectives of the research project included the development of a single methodology for measuring motor carrier safety fitness and the definition of a comprehensive process to improve the safety status of unsafe carriers. The intent of the FMCSA was to better utilize improved safety data reporting and information systems technologies that were not available previously and to take advantage of prior Volpe Center experience in developing safety measurement methodologies for regulated carriers.

In defining the improved process and eventual SafeStat methodology, shortcomings in the safety-fitness determination process used at the time were addressed. Several of these limitations resulted from the determination of safety fitness and carrier safety ratings solely on the basis of information obtained from single onsite safety audits, called compliance reviews (CRs), using a three-tiered safety rating scheme (Satisfactory, Conditional, and Unsatisfactory). These limitations included:

- Limited Coverage of the Motor Carrier Population – Only reviewed carriers are issued safety ratings. Compliance reviews were performed on a small percentage of the motor carrier population (roughly 10,000 reviews annually out of over 500,000 carriers).

- Obsolete Safety Ratings – Safety ratings remained in effect until additional compliance review were performed, regardless of the carriers' safety performance after their compliance reviews were conducted.

- Limited Use of Performance Data – The process was compliance-oriented, and performance data (state-reported crashes, roadside inspections, enforcement actions, moving violations, etc.) was used only on a limited basis or not at all.

- Labor-Intensive Manual Process – Compliance reviews often required several days to conduct, as opposed to a computer-performed analysis based on an algorithm and the use of available safety information databases.

2.0 SAFESTAT CONCEPT

SafeStat was conceived as a result of research into designing an improved process for safety fitness determination. SafeStat (short for Motor Carrier Safety Status Measurement System) is an automated, data-driven analysis system designed to measure relative motor carrier safety fitness by incorporating current on-road safety performance information on all carriers with onsite compliance review and enforcement history information (as available). The system allows the FMCSA to continuously quantify and monitor changes in the safety status of motor carriers, especially unsafe carriers. This allows FMCSA enforcement and education programs to efficiently allocate resources to those carriers that pose the highest risk of crash involvement.

The SafeStat concept departs significantly from the previous approach employed by the FMCSA, which relied on single onsite compliance reviews to provide the only means of assessing safety fitness. The previous approach incorporated onsite review findings with only the limited amount of safety performance data available at the time of the onsite review to generate one of three safety ratings. These ratings did not change until subsequent compliance reviews were performed, regardless of safety performance after the compliance reviews. Conversely, SafeStat accesses all current safety performance data to continuously assess the safety fitness of carriers. SafeStat treats the results from a compliance review as a source of information (albeit a very important source), but emphasizes safety performance data (e.g., crashes, roadside inspections, enforcement actions, etc.) to assess a carrier's overall safety fitness.

SafeStat is designed to maximize the use of state-reported data and centralized federal data systems, and to be improved through version upgrades that can accommodate additional data sources and indicators as they are developed. The expansion of SafeStat to include these additional data sources will allow the coverage of more carriers and strengthen the results for the carriers covered.

3.0 SAFESTAT DESIGN OVERVIEW

In addition to state-reported data, SafeStat focuses on the use of available federal motor carrier safety data to measure the relative safety status of motor carriers overall, and in four Safety Evaluation Areas (SEAs) in particular. The four analytical SEAs are:

- Accident SEA
- Driver SEA
- Vehicle SEA
- Safety Management SEA

All four evaluation areas provide a measurement of a carrier's past safety performance and assess its risk of future crashes. Carriers with the worst records (those in the worst quartile in two or more SEAs) are given SafeStat scores, which represent their overall safety status in relation to their peers.

SafeStat's four-SEA framework evaluates the SEA-specific strengths and weaknesses of each carrier's safety performance and compliance. The SafeStat design also provides the flexibility needed to assign higher or lower relative emphasis (weight) to each SEA. For example, since accident history and driver factors have emerged as the SEAs most associated with future crash risk, these SEAs are given additional weight in determining a carrier's overall safety status. In addition to producing an overall safety fitness status, SafeStat ranks carriers in each SEA to focus FMCSA and state safety improvement efforts.

3.1 Computation Of SEA Values

For each SEA, SafeStat proceeds from data to the SEA value sequentially as follows.

- Data: Safety-event data (e.g., crashes and safety regulation violations) and carrier-descriptive data (e.g., number of power units, number of roadside inspections) are the foundation of the computation hierarchy. Carrier-descriptive data are used to normalize a carrier's safety-event data.

- Measures: The data described above are used to calculate weighted, normalized safety measures, each of which represents and summarizes some aspect of a carrier's performance using a single number.

- Indicators: Carrier measures are ranked relative to those of other carriers, producing indicator percentiles of the carrier's standing within the peer group and allowing direct comparison of a carrier with others in the group.

- SEA Values: Related indicators are used to compute SEA values, which are expressed as percentiles to assess the carrier's performance in the four SEAs.

Data

SafeStat currently uses five data sources. The first four sources listed below provide data on carriers' actual safety performance and compliance. Motor Carrier Census data are used only for identification and normalization of safety-event data.

- State-Reported Commercial Vehicle Crash Data: Provide information on reportable crash involvement from crash reports filled out by state and local police officials according to the standards prescribed by the National Governors' Association (NGA).

- Compliance Reviews (CRs): Performed onsite by FMCSA safety investigators and their state counterparts to determine carriers' compliance with Federal Motor Carrier Safety Regulations (FMCSR), and in the case of hazardous materials (HAZMAT) carriers, with Hazardous Materials Regulations (HMR). Data such as the number and extent of violations and acute and/or critical instances of noncompliance with safety regulations are used by SafeStat to assign values in three related SEAs. The safety investigators also obtain data (e.g., number of recordable crashes and number of vehicle-miles traveled in the

12 months preceding the review) to compute a crash rate, which is used to compute the Recordable Accident Indicator in the Accident SEA value.

- Closed Enforcement Case Data: Show a pattern of violations that may indicate a serious lack of commitment to safety on the part of a carrier's management. Such data is available from the FMCSA, which tracks the historical results from major violations discovered during compliance reviews initiation through settlement. Closed enforcement case data is useful in developing the Safety Management SEA value.

- Roadside Inspections: Performed by Motor Carrier Safety Improvement Process (MCSIP) inspectors on individual commercial motor vehicles and drivers to provide data on FMCSR and HMR violations. Serious violations result in driver or vehicle out-of-service (OOS) orders, which must be corrected before the affected driver or vehicle can return to service. Drivers that ignore existing OOS orders (i.e., return to service without taking the proper corrective actions) are issued OOS order violations. Moving violations also may be recorded in conjunction with a roadside inspection. These data are the basis for developing the measures and indicators in the Driver and Vehicle SEAs.

- Motor Carrier Census Data: Includes data (identification, size, operations) initially gathered when carriers obtain their U.S. Department of Transportation (DOT) Numbers. The FMCSA records this information (including number of power units, number of drivers, types of cargo carried) in the Motor Carrier Management Information System and updates the data during compliance reviews, commercial vehicle registration in states participating in PRISM, and upon the request of the motor carrier.

Measures

SafeStat uses normalized safety-event data to measure the safety compliance and performance of individual carriers. It uses carrier-descriptive data, such as the number of power units or number of roadside inspections, to normalize a carrier's safety-event data by carrier size or amount of exposure. For example, when using crash data, the crash rate takes into account differences in exposure, making it possible to compare the safety of carriers relative to each other, rather than just comparing numbers of events.

Indicators

SafeStat uses the measures to calculate indicators. Whereas a measure, such as a recordable crash rate of X crashes per million vehicle-miles traveled, quantifies the performance of a carrier, an indicator ranks that performance in relation to the performance of that carrier's peers. SafeStat ranks each carrier's measure relative to its peers on a percentile (0 to 100) scale. This percentile number is assigned to the indicator.

Additional decision rules addressing data-sufficiency issues are applied before an indicator is assigned a percentile number. This ensures the measure is based on data sufficient to make the corresponding indicator statistically meaningful in terms of carrier safety status. For example, a minimum number of roadside inspections is required before an inspection indicator can be used.

SEA Values

Indicators within the same SEA are combined to generate a SEA value. For each SEA, values ranging from 0 to 100 are determined for all carriers with sufficient safety data related to that SEA. Each carrier's SEA value approximates the carrier's percentile rank relative to all other carriers with sufficient data to be assessed within the same SEA. By using the percentile rank for each SEA, SafeStat avoids using arbitrarily predetermined levels for scoring thresholds and provides an easily understandable value for each SEA.

The higher a carrier's SEA value, the worse its safety status. Therefore, an Accident SEA Value of 80 indicates that approximately 80 percent of the carrier population with sufficient data had better safety performance than that carrier with respect to crashes, and 20 percent had worse.

3.2 SafeStat Score

A primary purpose of SafeStat is to identify carriers for safety improvement programs. For this purpose, SafeStat does not give overall SafeStat scores to all carriers. To obtain a SafeStat score, a carrier must be deficient in at least two different SEAs. A SEA with a value from 75 to 100 is defined as deficient. This range approximates the worst 25 percent of the carriers assessed within a particular SEA. Therefore, SafeStat requires a "critical mass" of poor performance data before a carrier is scored.

Carriers that meet the criterion of two deficient SEAs are given a SafeStat score equal to the sum of the deficient SEA values for the Vehicle and Safety Management SEAs, plus two times the deficient Accident SEA value plus one and one-half times the deficient Driver SEA value. SEA values less than 75 are not used by SafeStat to calculate the SafeStat score. SafeStat ranks SafeStat-scored carriers in descending order by their score, starting with the carrier with the worst safety status (i.e., the highest SafeStat score). The SafeStat score is only relevant to identifying and ranking carriers with safety deficiencies.

3.3 Catagories

Categories also pertain to carriers with safety deficiencies. SafeStat assigns each scored carrier into Category A, B, or C, as defined by the SafeStat score ranges shown in Table 1.

TABLE 1 - SAFESTAT CATEGORIES

Category	SafeStat Score Range	Includes SEA Values of 75 or Higher
A	350 to ≤550	All 4 SEAs 3 SEAs that result in a Weighted Score of over 350
B	225 to ≤350	3 SEAs that result in a Weighted Score of less that 350 2 SEAs that result in a Weighted Score of over 225
C	150 to ≤225	2 SEAs that result in a Weighted Score of less than 225

SafeStat computes overall SafeStat scores *only for those carriers with poor safety statuses* so that these carriers can be identified and monitored in the Motor Carrier Safety Assistance Program (MCSAP) for Performance Registration Information Systems Management (PRISM) and can be prioritized for FMCSA compliance reviews.

SafeStat also assigns categories to carriers that did not receive a SafeStat score, but had sufficient information related to bad safety events to be evaluated as deficient in one SEA. These categories, D through G, help prioritize carriers for roadside inspections in the Inspection Selection System (ISS). Carriers deficient in one SEA, either Accident, Driver, Vehicle, or Safety Management, are ranked in Categories D, E, F, and G, respectively, as shown in Table 2.

TABLE 1 - SEA CATEGORIES

Single SEA Category	Specific SEA	SEA Value
D	Accident	75-100
E	Driver	75-100
F	Vehicle	75-100
G	Safety Management	75-100

3.4 Weighting

SafeStat uses weighting at various stages to improve the accuracy of the safety status assessment. As previously mentioned, deficient Accident SEA and Driver SEA Values are given more weight in the SafeStat Score calculation than deficient Vehicle and Safety Management SEA Values because problems with accident history and driver factors were shown to be most closely associated with future crash risk. Weighting is also applied to the data to account for the timeliness and severity of certain safety events.

Time Weighting

SafeStat applies time weighting to all safety-event data; more importance is given to the results of recent safety events than to the results of older safety events. For instance, the results of a vehicle roadside inspection performed within the past six months have three times more influence on a carrier's safety status in the Vehicle SEA than a vehicle inspection performed two years previously. Safety events "age to zero" after thirty months.

Safety events must occur within certain periods of time (depending on the source data) to be considered in the SafeStat calculation. Each time window moves with each calculation of SafeStat. For example, CR results have a time window of 18 months, which means that SafeStat uses the results only if the CR occurred within the last 18 months. If a carrier has a CR that is

only 17 months old, SafeStat will use it in its calculations. When SafeStat is run six months later, the compliance review will then be 23 months old—five months beyond the time window of 18 months and, therefore, will no longer be used by SafeStat because of its age. Time-weighting stresses the outcome of more recent safety events, which are more relevant to current safety status, and phases out safety-event data as they become older and less likely to reflect current safety status. This allows a carrier to demonstrate improvement in subsequent SafeStat runs if there are fewer or no new adverse safety events.

Severity Weighting

Where appropriate, safety measures are severity-weighted. For example, the Accident SEA assigns a weight of 1 or 2 to a crash, depending on whether it involved (1) property damage only (towed vehicle), or (2) injuries or fatalities. Additional weight is placed on a reportable crash if hazardous material is released.

3.5 Percentile Ranking

An important objective of the SafeStat calculations is to compare the performance of individual carriers to their peers, thereby producing an easily-understood performance measure relative to other carriers that is not tied to arbitrary point values. For this reason, indicators and SEA values are expressed as percentiles. For instance, the Driver Review Indicator is produced by calculating the Driver Review Measure for all carriers that had recent reviews, ranking them in ascending order, and giving each carrier a corresponding rating from 0 to 100 percent. Higher numbers indicate the worst performers among all carriers for which sufficient data are available.

Additional internet-accessible information about the SafeStat methodology is available at www.ai.volpe.dot.gov. From the menu, click on SafeStat Online, then Methodology, for a complete report on the most current version (8.1) of the Motor Carrier Safety Status Measuring System.